

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In The Matter Of)
)
SES AMERICOM, Inc.)
) SAT-PDR-20020425-00071
Petition For Declaratory Ruling)
To Serve the U.S. Market Using)
BSS Spectrum from the 105.5° W.L.)
Orbital Position)

To: The Commission

**COMMENTS OF THE
NATIONAL RURAL TELECOMMUNICATIONS COOPERATIVE**

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June 17, 2002

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SUMMARY

The frequencies requested by SES currently are used in the United States to provide DBS service to more than 18 million subscribers from the 101° W.L., 110° W.L. and 119° W.L. orbital positions. NRTC currently distributes DBS programming transmitted from the 101° W.L. location to more than 1.8 million subscribers throughout rural America. As the first order of business in evaluating the *SES Petition*, the Commission must ensure that, based on objective interference criteria, no existing DBS subscribers are subject to harmful interference as a result of the proposed operation of the SES satellite at the 105.5° W.L. orbital position.

NRTC supports the *SES Petition* as a potential new platform to provide additional competition in the MVPD and broadband markets, if all existing DBS subscribers can be protected from harmful interference and all other associated technical and regulatory issues can be resolved. NRTC expresses no opinion as to whether SES's attempt to short space a satellite licensed by the Government of Gibraltar between two U.S. DBS orbital positions (101° W.L. and 110° W.L.) is technically feasible and can overcome any existing domestic and international regulatory hurdles.

Notwithstanding the possibility of competition from the SES platform at some uncertain point in the future, SES will not provide substantial market impact within the two-year timeframe required under the *Merger Guidelines* of the U.S. Department of Justice and the Federal Trade Commission. The Commission, therefore, cannot consider the service proposed in the *SES Petition* to be a competitive alternative to EchoStar and DIRECTV that is sufficient to justify their proposed Merger.

To the contrary, SES's open platform promises to make available to EchoStar and DIRECTV additional capacity for the provision of MVPD and broadband services -- *without the*

necessity of an unlawful and anticompetitive Merger. To the extent that EchoStar and DIRECTV have argued that their Merger is necessary so that they may obtain access to additional spectrum for the provision of new and innovative services, the *SES Petition* provides a new and less intrusive alternative.

* * *

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**COMMENTS OF THE
NATIONAL RURAL TELECOMMUNICATION COOPERATIVE**

The National Rural Telecommunications Cooperative (NRTC), by its attorneys, hereby submits these Comments generally in support of the Petition for Declaratory Ruling (*SES Petition*) filed in the above-captioned proceeding by SES AMERICOM, Inc. (SES). SES seeks a determination that it is in the public interest to offer satellite capacity in the 12.2-12.7 and 17.3-17.8 GHz bands to third parties for the provision of direct broadcast satellite (DBS) services from a foreign licensed satellite located at the 105.5° W.L. orbital position.

NRTC is pleased that SES, an experienced satellite service provider, has determined to offer the prospect of additional competition in the multichannel video program distribution (MVPD) and broadband markets. As described below, however, millions of subscribers currently rely on these frequencies to receive DBS service. If SES can protect all of these existing subscribers from harmful interference by a satellite operating at the proposed orbital

¹ Petition for Declaratory Ruling, SES AMERICOM, INC., April 25, 2002. See Federal Communications Commission Report No. SAT-00110, *Satellite Space Applications Accepted for Filing*, SAT-PDR-20020425-00071 (released May 17, 2002).

location,² and if all other existing domestic and international regulatory issues can be resolved in connection with SES's efforts to "short space" a foreign licensed satellite between two U.S. DBS orbital positions, NRTC would welcome the introduction of SES's "open access" platform (AMERICOM2Home).

Notwithstanding the possibility of competition from the SES platform at some point in the future, however, SES will not provide significant impact in the MVPD market within the next few years. Under established legal guidelines, the benefits proposed by the *SES Petition* are too distant in time and too speculative for the Commission to consider in connection with the proposed merger (Merger) of EchoStar Communications Corporation (EchoStar), General Motors Corporation (GM) and Hughes Electronics Corporation (Hughes) (collectively, the Applicants).³ To the contrary, the *SES Petition* provides a new and less intrusive alternative than the proposed Merger for the Applicants to obtain access to additional spectrum capacity.

I. NRTC BACKGROUND

1. NRTC is a not-for-profit cooperative comprised of 705 rural electric cooperatives, 128 rural telephone cooperatives and 189 independent rural telephone companies located throughout 46 states. Since 1986, NRTC's mission has been to provide advanced telecommunications technologies and services to rural America. NRTC has long represented the views of rural Americans before the FCC, the National Telecommunications and Information Agency (NTIA), and the United States Congress.

² Any degradation in the technical quality of the signal currently received by DBS subscribers is unacceptable and should be considered "harmful."

³ Application of EchoStar Communications Corporation, General Motors Corporation and Hughes Electronics Corporation, Transferor; and EchoStar Communications Corporation, Transferee, For Authority to Transfer Control, File Number 01-348, p. 6 (filed December 3, 2001) (*Merger Application*). See also Cable Service Bureau Action, EchoStar Communications Corporation, General Motors Corporation, and Hughes Electronics Corporation Seek FCC Consent for a Proposed Transfer of Control, CS Docket No. 01-348, DA 01-3005 (released December 21, 2001).

2. In 1994, NRTC assisted in capitalizing the launch of the DIRECTV satellite business. Through a Distribution Agreement between NRTC and Hughes Communications Galaxy, Inc. (DIRECTV's predecessor-in-interest), NRTC received exclusive program distribution and other rights to distribute DIRECTV's DBS programming services throughout much of rural America. NRTC, its members and affiliates currently distribute DIRECTV programming to approximately 1,800,000 rural households. NRTC also distributes satellite Internet access services pursuant to agreements with StarBand Communications, Inc. and Hughes Network Systems. Additionally, NRTC provides dial-up Internet access, 220 MHz wireless services, long distance telephone services, automated meter reading and other telecommunications services to its members and affiliates who in turn provide these services to rural consumers.

3. Since its inception, NRTC has championed the rights of rural Americans to enjoy fair and nondiscriminatory access to the same programming that is available to consumers in more populated urban areas. As early as 1989, NRTC was active in Commission and Congressional efforts to prohibit discrimination against distributors of satellite programming to rural America.⁴ In 1992, NRTC advocated passage of the Program Access provisions of the Cable Television Consumer Protection and Competition Act of 1992, which were designed in part to prevent discrimination against rural consumers.⁵

4. As the Commission is well aware, NRTC has strongly opposed the Merger of EchoStar and DIRECTV on the grounds that it would eliminate MVPD competition in rural America, thereby depriving rural Americans of choice, raising their prices for programming, and

⁴ See Notice of Inquiry, *Inquiry Into the Existence of Discrimination in the Provision of Superstation and Network Station Programming*, 4 FCC Rcd 3833 (1989).

⁵ 47 U.S.C. § 628. See also First Report and Order, *Implementation of Sections 12 and 19 of the Cable Television Consumer Protection and Competition Act of 1992*, 72 RR 2d 649, 8 FCC Rcd 3359 (1993).

lowering the quality of service they receive.⁶ NRTC has taken this position even though the Merger arguably would be economically beneficial to NRTC by eliminating EchoStar as its competitor in the territories defined in the Distribution Agreement with DIRECTV and leaving NRTC as the sole source for MVPD services in much of rural America. However, NRTC believes that competition assures choice, lowers prices and leads to higher quality service and innovation. NRTC is not prepared to abandon its rural constituency just because a particular merger may provide financial benefits to NRTC. Consequently, NRTC is pleased that SES, an experienced satellite service provider, has determined to offer the prospect of additional competition in the MVPD and broadband markets.

II. COMMENTS

5. SES proposes to create an open platform at 105.5° W.L for the carriage of DBS services by third parties that contract with SES to distribute television programming and other content to consumers.⁷ Based on its successful satellite operations in Europe, SES indicates that some of these content providers might choose to offer “free-to-air” channels supported by advertisers, along with pay-per-view movies and sporting events. With equipment upgrades, consumers may gain access on a subscription basis to bundles of higher level program offerings, including customized niche markets, as well as integrated and two-way broadband services provided from SES’s “neighborhood” of Ka-band or other Ku-band satellites at 105° W.L. SES states that if the Commission were to rule favorably on its petition in 2002, its satellite “could be launched as early as 2004.”⁸

⁶ NRTC’s objections to the proposed Merger are detailed in the Petition to Deny of the National Rural Telecommunications Cooperative, *In the Matter of EchoStar Communications Corporation, General Motors Corporation and Hughes Electronics Corporation*, CS Docket No. 01-348 (February 4, 2002) (*NRTC Petition*) and related pleadings.

⁷ *SES Petition*, p. 5.

⁸ *Id.*, p. 12.

A. **Current DBS Subscribers Must Be Protected From Harmful Interference.**

6. SES's proposed open platform would serve as a welcome alternative to the manner in which DBS and high speed Internet services are provided to U.S. consumers today. By establishing a broad-based, open platform through a more efficient use of the limited DBS spectrum resource, SES promises to bring additional services to rural and other areas of the country that rely heavily on satellite distribution technology to receive modern telecommunications services. Assuming, as described below, that all existing technical and regulatory issues can be resolved -- *and that all existing DBS subscribers can be protected from harmful interference* NRTC supports SES's efforts to obtain FCC approval for its new and creative service.⁹

7. Rather than using the currently authorized nine degree DBS orbital spacing, SES proposes to locate its satellite at 105.5° W.L., only four and one-half degrees from each of two U.S. DBS orbital positions (101° W.L. and 110° W.L.).¹⁰ These frequencies presently are used in the U.S. to provide DBS service to more than 18 million subscribers. Before ruling on the *SES Petition*, the Commission must resolve all domestic and international issues related to SES's attempt to short space a foreign licensed satellite between two U.S. DBS orbital positions.¹¹

8. Of particular importance in the Commission's evaluation of the *SES Petition* is the protection of millions of DBS subscribers who currently receive programming services from the authorized 101° W.L. and 110° W.L. orbital positions. While SES's short spacing proposal offers to provide tremendous spectrum efficiencies and public interest benefits, it has not yet

⁹ As mentioned, any degradation in the technical quality of the signal currently received by DBS subscribers is unacceptable and should be considered "harmful." *Supra*, n. 2.

¹⁰ *SES Petition*, pp. 6-11.

¹¹ NRTC takes no position on whether the *SES Petition* satisfies all relevant technical and regulatory issues.

been established with any certainty that four and one-half degree spacing will not cause harmful interference to the millions of existing DBS subscribers. Current DBS subscribers should not be required to suffer any decrease in the technical quality of their programming services, nor should they be expected to incur any additional costs or inconvenience as a result of the *SES Petition*.

9. As a distributor of DBS services to more than 1.8 million subscribers throughout rural America, many of whom are often located in areas where other MVPD services are not available except *via* satellite, it is particularly important to NRTC that the protection of existing DBS users from harmful interference remain paramount in the Commission's consideration of the *SES Petition*. The *SES Petition* should not be granted until it is established as a technical matter, using objective interference criteria, that SES's proposed operation will not harm existing subscribers.

10. In addition to satellite-to-satellite interference issues, any harmful terrestrial interference also must be considered in connection with the *SES Petition*. The Commission's recent decision to authorize the new Multichannel Video Distribution and Data Service (MVDDS)¹² was based largely on the results of an independent test conducted by the MITRE Corporation that considered an interference environment consisting of only three full CONUS DBS orbital positions.¹³ The MITRE Report did not consider an additional DBS satellite located

¹² See *In the Matter of Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range; Amendment of the Commission's Rules to Authorize Subsidiary Terrestrial Use of the 12.2-12.7 GHz Band by Direct Broadcast Satellite Licensees and Their Affiliates; and Applications of Broadwave USA, PDC Broadband Corporation, and Satellite Receivers, Ltd. to Provide A Fixed Service in the 12.2-12.7 GHz Band*, ET Docket No. 98-206, FCC 02-116 (released May 23, 2002) (*MVDDS Order*).

¹³ The MITRE Corporation, "Analysis of Potential MVDDS Interference to DBS in the 12.2-12.7 GHz Band" (April 23, 2001) (*MITRE Report*).

at 105.5° W.L., and it is unclear if any additional harmful interference would be generated as a result.¹⁴

11. Assuming that all current DBS subscribers can be protected from any harmful interference and that all other technical and regulatory issues can be satisfactorily resolved in regard to the operation of a foreign licensed satellite equidistant between two U.S. DBS orbital positions,¹⁵ NRTC supports the *SES Petition* as a potential new and innovative source of MVPD and broadband competition.

B. The Benefits Proposed By The *SES Petition* Are Too Distant In Time And Too Speculative To Be Considered In Connection With The Proposed Merger Of EchoStar And DIRECTV.

12. Pursuant to the *Merger Guidelines* of the U.S. Department of Justice (DOJ) and the Federal Trade Commission (FTC), the Commission cannot consider SES's proposed new satellite platform in evaluating the proposed Merger of EchoStar and DIRECTV.¹⁶ Only new entrants that will be established as significant competitors within two years may be factored into the evaluation of the proposed Merger:

In order to deter or counteract the competitive effects of concern, entrants quickly must achieve a significant impact on price in the relevant market. The Agency generally will consider timely only those committed entry alternatives that can be achieved *within two years from initial planning to significant market impact*.¹⁷

¹⁴ *MVDDS Order*, ¶¶54-85, Appendix B; See *MITRE Report* at Section 5 for all simulation results.

¹⁵ SES's proposed operation from the 105.5° W.L. orbital position is based on a license issued by the Government of Gibraltar. Before the Commission may authorize a non-U.S.-licensed satellite to provide service to the U.S. operations from this location, it also must determine whether the *SES Petition* satisfies the "ECO-Sat" test. See *Amendment of the Commission's Regulatory Policies to Allow Non-U.S. Licensed Space Stations to Provide Domestic and International Satellite Service in the United States*, 12 FCC Rcd 24094, 24134 (1997). *SES Petition*, pp. 16-21.

¹⁶ U.S. Department of Justice and Federal Trade Commission, *Revisions to Horizontal Merger Guidelines* (1997), reprinted in 4 Trade Reg. Rep. § 3.2, (CCH) (1997) (*Merger Guidelines*).

¹⁷ *Id.* (emphasis added).

Although SES asserts that its satellite could be launched as early as 2004 if the Commission were to rule favorably on the *SES Petition* in 2002, it would be impossible for SES to achieve the required "significant market impact" within the requisite two-year period.¹⁸ Any meaningful competition from SES's platform undoubtedly would take much longer to occur, if it occurs at all.¹⁹

13. First, as mentioned above, the *SES Petition* raises new and novel (and as yet unanswered) questions related to the assignment of licenses and the allocation of domestic and international frequencies and orbital positions. It is highly unlikely that the Commission will resolve all of these issues and rule favorably on the *SES Petition* in 2002, so that SES may launch its satellite in 2004.

14. The Commission has not yet conducted any studies or otherwise determined that the proposed service will not cause harmful interference to the services currently received by more than 18 million authorized DBS subscribers. Nor has the Commission yet established that the proposed service satisfies all domestic and international regulatory requirements.

15. Even if SES somehow were to overcome these issues and launch its satellite in 2004, it still would not be in a position to offer a level of competition sufficient to justify the proposed EchoStar/DIRECTV Merger under the *Merger Guidelines*. There is a vast difference between launching a satellite and providing significant market impact.²⁰

16. A review of the DBS industry's entry into the MVPD market suggests that it would take well more than two for SES to achieve significant market impact. Despite authorizing DBS

¹⁸ SES has not yet even selected a satellite vendor at this point. *Business Wire*, Question 15.

¹⁹ Courts also have made clear that only substitutes that constrain pricing in "the reasonably foreseeable future" and only products that can enter the market in "a relatively short time" can be considered as reasonably interchangeable in the context of a proposed merger. *U.S. v. Microsoft*, 253 F.3d 34, 54 (D.C. Cir 2001). The proposed SES satellite passes neither test.

²⁰ Mark Holmes, *SES Americom Head Has Doubts*, *Interspace*, May 8, 2002.

service in 1982, the Commission noted that by 1994 -- twelve years later -- DBS had only 40,000 subscribers and its equipment was available in only twenty-three states.²¹ Although DIRECTV launched its first satellite in 1994, the DBS industry still held less than 10% of the MVPD market by 1998.²² It was not until 2001 that the Commission even acknowledged DBS as cable's 'principal competitor.'²³

7. To suggest that SES will be a viable competitor to EchoStar and DIRECTV within two years, as required by the *Merger Guidelines*, is unrealistic. As history has shown, it took almost twenty years for DBS to go from an authorized service to cable's "principal competitor; once launched, it took more than four years for DBS to obtain less than a 10% share of the MVPD market. It cannot be assumed that SES will somehow achieve significant MVPD market impact within the required two-year timeframe.

18. Even if SES did launch its satellite in 2004, as it hopes, SES's system at that point would consist of only a single DBS satellite with 32 channels. In stark contrast, EchoStar and DIRECTV already are each thriving as independent competitors.²⁴ A combined EchoStar/DIRECTV entity would consist of at least 15 satellites, 96 channels, three full-CONUS orbital positions and a likely embedded base of up to 20 million subscribers.²⁵ In a post-Merger

²¹ First Report, *Implementation of Section 19 of the Cable Television Consumer Protection and Competition Act of 1992 Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, 9 FCC Rcd 7442, ¶¶62, 65 (released September 28, 1994).

²² Fifth Annual Report, *Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming*, 13 FCC Rcd 24284, ¶7 (released December 23, 1998). Even today, with almost a 20% share of the MVPD market, EchoStar and DIRECTV claim that they must merge in order to provide significant competition to cable.

²³ Seventh Annual Report, *In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, 22 CR 1414, ¶61 (released January 8, 2001).

²⁴ See Ex Parte Reply to Opposition of the National Rural Telecommunications Cooperative, *In the Matter of EchoStar Communications Corporation, General Motors Corporation and Hughes Electronics Corporation*, CS Docket No. 01-348, pp. 36-41 (April 4, 2002).

²⁵ *NRTC Petition*, pp. 5-6.

world, SES would face an EchoStar/DIRECTV behemoth that no doubt would present an insurmountable obstacle to SES's rapid market penetration.

19. As Chairman Powell recently stated in ruling-out the *SES Petition* as a competitive force to be reckoned with as part of the Merger proceeding:

I don't know that [SES has] that big an impact on where we might be going [in regard to the proposed Merger] just because there's an announcement about something... You can't credit, at a deep level, proposals if they're not real, functioning things in the market that you can measure.²⁶

20. NRTC agrees with the Chairman. Clearly, the satellite platform proposed in the *SES Petition* is not a "real, functioning" competitive force to EchoStar and DIRECTV -- and will not be within the near future. While the SES platform holds potential, it does not offer the type of significant competition that can be factored into the Commission's evaluation of the proposed Merger.

C. SES's Proposed Open Platform Would Make Additional Spectrum Available To EchoStar And DIRECTV And Contradict Their Stated Need To Merge.

21 To the extent that EchoStar and DIRECTV feel that they are spectrum constrained as independent companies and must merge in order to obtain additional capacity for the provision of local channels and other services, SES's open platform could afford them, as separate competitors, full access to all DBS frequencies from a new full-CONUS orbital position. Given the proposed location of the SES satellite, it is even possible that neither company would need to replace receiving equipment or make significant capital investments to lease capacity from SES.

22. NRTC recognizes that any such use is speculative, but EchoStar and DIRECTV are obvious candidates for obtaining new capacity through SES, especially since new receiving

²⁶ Benjamin Pole, *Washington Footprint*, Satellite Business News, p. 23, May 22, 2002 (*Powell Interview*).

equipment likely would not need to be installed at subscribers' homes.²⁷ The possibility that EchoStar and DIRECTV could use capacity on the SES satellite further demonstrates that the proposed Merger is not the only means by which the companies can obtain access to additional spectrum for the provision of local television and other services.²⁸ Beyond SES, as NRTC has pointed out in the Merger proceeding, there are countless joint venture and other avenues that remain available to the parties.²⁹ As reported in a recent trade press article:

There is no doubt that if their deal is blocked, EchoStar and DirectTV could still find a way to share some spectrum to offer local channels in smaller markets, assuming of course, they can put the companies' egos aside.³⁰

III. CONCLUSION

Before ruling on the *SES Petition*, the Commission must resolve all domestic and international issues related to SES's attempt to short space a foreign licensed satellite between two heavily used U.S. DBS orbital positions. In particular, the Commission must ensure that the DBS service currently being provided to more than 18 million DBS subscribers from authorized orbital positions is not subject to harmful interference from operations of the SES satellite at the proposed position.

Assuming that harmful interference and all other technical and regulatory issues can be resolved, NRTC supports the *SES Petition* as a potential new and innovative source of MVPD

²⁷ The 105.5° W.L. slot lies halfway between the 101° W.L. and 110° W.L. slots currently used by EchoStar and DIRECTV. Receive antennas apparently would not need to be re-pointed in order to receive signals from the SES satellite. Whether new set-tops would be necessary will depend on the digital transmission standard and its interoperability with the standards used by EchoStar and DIRECTV. By agreeing to access the SES platform early on, EchoStar and DIRECTV have the ability to affect the construction parameters and protocols that the satellite would employ.

²⁸ In announcing the filing of the *SES Petition*, SES made clear that in order to provide full local programming, it would need some access to the EchoStar and/or DIRECTV satellite systems for its AMERCOM2Home subscribers. According to SES, the access could be accomplished as a technical matter, if the other DBS companies were willing to work cooperatively with SES. *Business Wire*, Question 9.

²⁹ See *NRTC Petition*, 63-65.

and broadband competition. Under no stretch of the imagination, however, can the *SES Petition* be construed to provide a level of competition that would justify the proposed merger of EchoStar and DIRECTV. While promising, the SES proposal offers nowhere near the significant market impact required for consideration under the *Merger Guidelines* of the DOJ and FTC. As Chairman Powell has recognized, "you can't credit, at a deep level, proposals if they they're not real, functioning things in the market that you can measure."³¹

Respectfully submitted,

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June 17, 2002

³⁰ Bob Scherman, More Thoughts on the Road to Monopoly, *Satellite Business News*, p.9, May 8, 2002.

³¹ *Powell Interview*, p.23.

Certificate of Service

I HEREBY CERTIFY that on this 17th day of June, 2002, a true and correct copy of the foregoing Comments of the National Rural Telecommunications Cooperative in the Petition for Declaratory Ruling SES AMERICOM, Inc. (SAT-PDR-20020425-00071), was submitted via hand delivery to the Federal Communications Commission and served via courier, electronic mail or First Class Mail upon the following:

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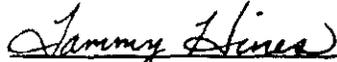
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National Rural Telecommunications Cooperative
Response to the Applicants'
Technical Analysis Of The EchoStar-Hughes Merger

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In recent presentations to the Federal Communications Commission, economists Andrew Joskow and Robert Willig (Joskow/Willig) provide two sets of slides and one note, (1) "Analysis of the EchoStar-Hughes Merger: Competitive Effects and National Pricing" dated July 2, 2002 (*Analysis*), (2) "Notes on EchoStar-DIRECTV Merger Simulation Analysis Methodology" dated July 2, 2002 (*Methodology*), and (3) "Supplemental Technical Appendix to the Presentation on the Competitive Effects of the EchoStar-DIRECTV Merger" (*Supplement*). In this Response, we review these documents and specify the most important of the faults in their analysis of the competitive effects of the proposed EchoStar-DIRECTV merger (Merger).

Joskow/Willig rely upon a threshold set of arguments to support a narrow focus for all of their conclusions. They state, but do not substantiate, that the relevant geographic market for antitrust analysis is national, and includes all cable service providers as well as Direct Broadcast Service providers. This leads to the construction of tables on concentration in sales "in the market" that treat cable services on the West Coast as substitutes for those on the East Coast. This could only be correct if arbitrage by DBS providers – selling more service at one location and less service at another location – caused the service charges of cable providers to converge to the same level throughout the country. Joskow/Willig provide ample evidence in the table on page 21 of their *Analysis*, "Monthly Price Changes," that there are wide variations in cable service prices, showing that DBS has not been of sufficient impact on cable prices to bring about such price parity. Without price convergence, which is required by market definition, the geographic market cannot be the entire country with all cable service providers competitive with each other.

Using this national market definition, Joskow/Willig's demand description in their Bertrand differentiated model is not realistic or even approximately accurate. Assumptions of "national average" values for key parameters are unsustainable and the resulting elasticity and price estimates are inapplicable to those for actual local markets. The assumption of a single national market obscures the anti-competitive effects of the Merger in local markets where there is no cable service. It results in an inaccurate description of the nature and extent of competition before the Merger, and of the extent of

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price increases from the Merger. We discuss these assessments in the six main points that follow:

(1) Joskow/Willig Argue Incorrectly That Both EchoStar And DIRECTV Are Closer Competitors To Cable Systems Than To Each Other.

The *Analysis* opines that cable providers are EchoStar and DIRECTV's closest competitors and that the two DBS operators do not, in effect, compete. This is based on their analysis of "churn" data, new subscriber data, and data on the number of subscribers obtained through promotions. But close examination makes it clear that these data only make one point: cable has fivefold more subscribers than either EchoStar or DIRECTV, so that market presence with random choice alone explains percentages of churn. They do not indicate that cable is the close competitor of either DBS provider. In fact DIRECTV has been a closer competitor to EchoStar than cable.

To determine the extent to which one product is a competitive substitute for another, the appropriate measure is the cross elasticity of demand. A positive cross elasticity indicates substitutability and hence competition between the two. Let the price and the market share of EchoStar service i be p_i and s_i , where $j = A(\text{antenna}), C(\text{cable}), \text{ or } D(\text{DIRECTV})$. The cross elasticity between i share and j price of service is given:

$$\epsilon_{ij} = \frac{\partial s_i}{\partial p_j} \frac{p_j}{s_i},$$

On page 12 of the *Analysis*, the increase in the share of EchoStar is not determined by price increases for cable or DIRECTV, but by the decrease in the shares of other services. If we assume that these share changes are with respect to the change in the price of EchoStar service, $\partial s / \partial p_E$, we can compare the cross elasticity of cable and EchoStar ϵ_{CE} with the cross elasticity of DIRECTV and EchoStar ϵ_{DE} . Defining a "diversion ratio"

from choice EchoStar to choice j as $d_{Ej} = \frac{\partial s_j / \partial p_E}{\partial s_E / \partial p_E}$, the cross elasticity can be obtained

from share data, prices, and the diversion ratio $\epsilon_{Ej} = \frac{d_{Ej}}{s_j} \cdot \frac{\partial s_E}{\partial p_E} \cdot p_E$.

The shares of each service listed on page 18 of the *Analysis*, and diversion ratios obtained from page 10 of the *Analysis*, result in cross elasticities between different choices and EchoStar as follows:

	share	diversion ratio	cross elasticity ¹
Cable	██████	██████	██████
DIRECTV	██████	██████	██████

The cross elasticity between DIRECTV and EchoStar ϵ_{DE} is 136% higher than that between EchoStar and cable ϵ_{CE} . Similarly, the cross elasticities based on the DIRECTV churn data are as follows:

	share	diversion ratio ²	cross elasticity
Cable	██████	██████	██████
EchoStar	██████	██████	██████

The cross elasticity between DIRECTV ϵ_{ED} and EchoStar is 255% higher than that between DIRECTV and cable ϵ_{CD} . For both EchoStar and DIRECTV, these estimates from Joskow/Willig sources indicate much higher substitutability of each other than of cable services, and therefore much greater competitiveness with each other than with cable.

(2) The Joskow/Willig Assumptions As To DBS Competitiveness Are Contradictory To Their Proposed Findings From The Churn Data.

In the nested-logit model that includes DIRECTV, EchoStar, cable and antenna that is described in the *Methodology*, DIRECTV and EchoStar are nested into a group. In such a model, the shares of cable and EchoStar are:

$$\begin{aligned}
 s_C &= \frac{e^{\Delta_C}}{e^{\Delta_A} + e^{\Delta_C} + (e^{\Delta_E/1-\sigma} + e^{\Delta_D/1-\sigma})^{1-\sigma}} \\
 s_E &= \frac{e^{\Delta_E/1-\sigma} \cdot (e^{\Delta_E/1-\sigma} + e^{\Delta_D/1-\sigma})^{-\sigma}}{e^{\Delta_A} + e^{\Delta_C} + (e^{\Delta_E/1-\sigma} + e^{\Delta_D/1-\sigma})^{1-\sigma}}
 \end{aligned}
 \tag{1}$$

where $\Delta_j = x_j\beta - \alpha p_j + \zeta_j$, $j = A, C, D$ or E , and x_j is the set of characteristics of the choice i , and α is the coefficient of price. (See pages 5 and 9 of the *Methodology* and page 11 of the *Supplement*.) The parameter σ is an increasing function of the correlation coefficient between the two DBS services. A larger value σ indicates a closer correlation between the two (Amemiya 1985³). The price coefficient α has to be positive to have negative own price elasticity. In fact, by straight-forward algebra, one can show:

¹ The numbers in this column are defined as *cross elasticity* divided by $(\partial s_E / \partial p_E \cdot p_E)$. Joskow/Willig's analysis results in a cross elasticity between EchoStar and Antenna of ██████, which may reflect an interim or default choice a customer makes before subscribing to a cable or DIRECTV, or which may only further demonstrate the inappropriateness of this data for any meaningful analysis.

² The diversion ratios are from page eight of the *Analysis*.

³ Page 301 in *Advanced Econometrics*, Takeshi Amemiya, 1985.

$$\begin{aligned}\varepsilon_{CE} &= \frac{\partial s_C}{\partial p_E} \cdot \frac{p_E}{s_C} = \alpha s_E p_E \\ \varepsilon_{DE} &= \frac{\partial s_D}{\partial p_E} \cdot \frac{p_E}{s_D} = \frac{\alpha \sigma p_E}{1 - \sigma} \cdot \frac{e^{\Delta_E/1-\sigma}}{e^{\Delta_E/1-\sigma} + e^{\Delta_D/1-\sigma}} + \alpha s_E p_E\end{aligned}$$

Since $\sigma < 1$ (required by McFadden random utility maximization theory) and the price coefficient $\alpha > 0$ (required by the negative own price elasticity), we must have:

$$|\varepsilon_{DE}| > |\varepsilon_{CE}|, \text{ and similarly, } |\varepsilon_{ED}| > |\varepsilon_{CD}|.$$

Therefore, a larger cross elasticity exists between the two DBS choices within the nest than between cable and either one of the DBS choices. What Joskow/Willig intend to “prove” in their analysis of the churn data is contradictory to the McFadden random utility maximization theory.

(3) Joskow/Willig Undermine The Usefulness Of Demand Estimates By “Calibrating” The Key Parameter In Their Logit Analysis.

The value of parameter σ in Equation (1) is critical to estimates of shares in the logit analysis. We calculate the value of σ based on the formula and data provided in the *Methodology*. Based on the formula on page 7 in the *Methodology*, we have:

$$-dr = \frac{\varepsilon_{ED} \cdot s_E}{\varepsilon_{DD} \cdot s_D} = \frac{s_D + \frac{\sigma}{1-\sigma} \cdot \frac{s_D}{s_D + s_E}}{s_D - \frac{1}{1-\sigma} + \frac{\sigma}{1-\sigma} \cdot \frac{s_D}{s_D + s_E}} \cdot \frac{s_E}{s_D} = \text{[REDACTED]}, \quad (2)$$

where dr is the diversion ratio. The value of this ratio of [REDACTED] can be used to solve Equation (2) for σ :

$$\sigma = \frac{(dr - s_E - dr \cdot s_D)(s_D + s_E)}{(dr \cdot s_D + s_E)(1 - s_D - s_E)} = .131, \quad (3)$$

based on $s_E =$ [REDACTED], $s_D =$ [REDACTED] and $dr =$ [REDACTED]. The diversion ratio of [REDACTED] is obtained using the churn data between April 2001 and March 2002. However, if we use the diversion ratio reported on page eight in the *Analysis* which covers the time period surrounding the price increase on September 2000, we have $\sigma =$ [REDACTED], i.e., an estimate that is [REDACTED] larger.

⁴ The same elasticity formulae can also be found in Slade (2002) (Slade, Margaret, 2002, “Assessing market power and market dominance in UK Brewing,” Department of Economics, University of British Columbia).